

## AMPLIFIER MODULATION

### ABSTRACT

In general, the invention is directed to an efficient amplifier for use in radio-  
5 frequency identification (RFID) applications. In particular, the invention provides a  
highly efficient amplifier that requires little power, yet has significant modulation  
bandwidth to achieve high data communication rates. The amplifier makes use of many  
components of a class E amplifier including a first transistor, an inductor coupling the  
first transistor to a power supply, and a shunt capacitor connected in parallel to the first  
10 transistor. A second transistor is connected in parallel to the first transistor. A controller  
selectively controls the first and second transistors to achieve amplitude modulation at a  
high modulation bandwidth.